

WHAT IS CLAIMED IS:

1. An image sensing device comprising:

light source means;

5 a recording member on which an image is formed and  
conveyed in one direction;

illumination means for causing a light beam  
emitted from said light source means to obliquely  
illuminate said recording member; and

10 imaging means for condensing specularly reflected  
light from the image on said recording member and  
causing the reflected light to travel to a surface of  
light receiving means, said image sensing device  
obtaining positional information of the image on said  
15 recording member on the basis of a signal obtained by  
said light receiving means,

wherein when the amount of displacement of the  
recording member in a vertical direction during  
conveyance of said recording member is  $d$ , an angle  
between the optical axis of said imaging means and a  
20 normal to said recording member is  $\theta$  (degrees), and  
resolution of the image formed on said recording member  
is  $R$  (dpi), the components are set so that

$d \cdot \tan \theta < (25.4/R) \times 1000$  is satisfied.

25 2. A device according to claim 1, wherein the  
angle  $\theta$  (degrees) satisfies

$5^\circ < \theta < 35^\circ$ .

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$0.75 < |\beta| < 1.25$  is satisfied.

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10. A device according to claim 8, wherein the aperture of the stop has a size substantially equal to or smaller than the size of the image of the light emitting point of said light source means.

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imaging means including an imaging lens for forming, onto a surface of a light receiving means, the image on the recording medium, said image sensing

device detecting the image on said recording member on the basis of a signal obtained by said light receiving means,

wherein said irradiation lens and said imaging  
5 lens are formed integrally with each other and made of a same material.

16. A device according to claim 15, wherein at least one of said irradiation lens and said imaging  
10 lens has at least one rotationally symmetrical aspherical surface.

17. A device according to claim 15, wherein at least one of said irradiation lens and said imaging  
15 lens has at least one anamorphic surface.

18. A device according to claim 15, wherein at least one surface of said irradiation lens and said imaging lens is inclined relative to a surface normal  
20 to said recording member.

19. A device according to claim 15, wherein at least one of the surface of said irradiation lens and said imaging lens on said recording member side is  
25 flat.

20. A device according to claim 15, wherein an

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optical axis of said irradiation lens and an optical axis of said imaging lens have equal angles formed in opposite directions from a surface normal to said recording member.

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21. A device according to claim 15, wherein said light source means is provided with a moving mechanism capable of displacing to an arbitrary position.

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22. A device according to claim 15, wherein said light receiving means is provided with a moving mechanism capable of displacing to an arbitrary position.

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23. A device according to claim 15, wherein said imaging means has a stop, and a light emitting surface of said light receiving means and the stop are made substantially conjugate with each other when a surface of said recording member is a specular reflection surface.

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24. A device according to claim 15, wherein said light receiving means detects the image formed on said recording member to obtain positional information of the image.

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25. A device according to claim 15, wherein said

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light receiving means detects density of the image  
formed on said recording member.

26. An image forming apparatus including an image  
5 sensing device according to any one of claims 15 to 25,  
wherein said image forming apparatus forms a color  
image by using said image sensing device.

**DECEMBER**